



## Why Position Partners?

We're there when you need us

With more than 30 years' experience in deploying intelligent positioning solutions, Position Partners and its founding businesses have continuously broken new ground in the application of technology to enable safer, more efficient and more productive mine site operations.

Position Partners' expert team is unrivalled in the industry - our people are passionate about what they do and committed to supporting our customers whenever and wherever they're working.

With more than 350 employees across Australia, New Zealand and Southeast Asia, no other company can deliver the depth of expertise and boots on the ground support that Position Partners has to offer. We source the latest and most advanced technology from leading suppliers worldwide, ensuring it is fit for the local market and assisting customers with training, service, calibration and support to suit their unique business needs.



### Workshop services

Comprehensive product service, maintenance, repairs and advice are provided via our local service centres with manufacturer-trained technicians. We guarantee all our work and can supply calibration certificates if required.



### Training

From change management through to systems deployment, our team will work with you at every stage to deliver practical, hands-on training to ensure workers and management can maximise the full benefits of their mining solutions.



### Hire or lease options

A full range of systems, from laser levels through to machine systems and survey instruments, can be hired or leased to suit any application and reduce capital outlay. Get the flexibility to customise technology to suit unique site requirements.







## Multiple solutions from a single, local supplier

Simplify your procurement process and select from our range of leading, tried and tested solutions



### For all machines & survey assets

Position Partners are the retrofit experts, specialising in sourcing and supplying machine-agnostic solutions for your mixed fleet



### Site-wide change management

Our team works with you to customise solutions that compliment your existing workflows and simplify your day-to-day operations



### Fast support a phone call away

The combination of remote access support and a large, local network of field technicians delivers unrivalled support

350+ strong team to support your mine



## Remote Access & Support

To give you fast help when you need it, our technicians can remotely access your systems when required to troubleshoot and train users to get you back to the job as soon as we can.

Access high precision  
and fleet management  
devices remotely



Send & receive messages to  
operators, surveyors & managers



## Flexible Service Level Agreements

To ensure that your mining solutions are always performing at their best, the team at Position Partners is here to support you. Our highly trained specialist technicians are committed to providing the highest quality of service, with a combination of remote and boots-on-the-ground support hubs dedicated to ensuring requests are quickly actioned to maximise your machine uptime.

Our comprehensive Service Level Agreements are fully tailored to your unique requirements, to give managers and operators peace of mind that technical assistance, training and remote updates are available as needed, reducing the need for on-site visits.

**Tailored  
Support**

## Production

### Haul Cycle Data Logging

Automated data capture in real-time

Enables immediate feedback for effective and prompt decisions:

- Material
- Location
- Paired vehicle
- Payload
- Second gear re-weigh
- Activity & delay codes
- Vehicle state (loading, travel loaded, dumping, travel empty, stopped, queuing, spotting, re-spotting, etc)

### Load Assist

Operator feedback for optimal loading

- Haul cycle data
- Load pass tonnages/BCM
- Target payload
- Centre of gravity
- Dump destination



## Time

### Vehicle Utilisation Insights

iVolve Mine4D Time records vehicle usage information including engine utilisation, Service Meter Unit (SMU) hours, as well as activities and delays based on operator selections from and in-cab iVolve display.

Utilisation and SMU are typically obtained from an interface to the vehicles on-board ECMS, otherwise they're determined by Mine4D Time with additional inputs.

Mine4D Time reports directly to the Iris server, so supervisors can remotely monitor the working state of all vehicles in real-time with iControl. For reporting, iReport can collate information across multiple shifts.

## Guidance

### For excavators and dozers

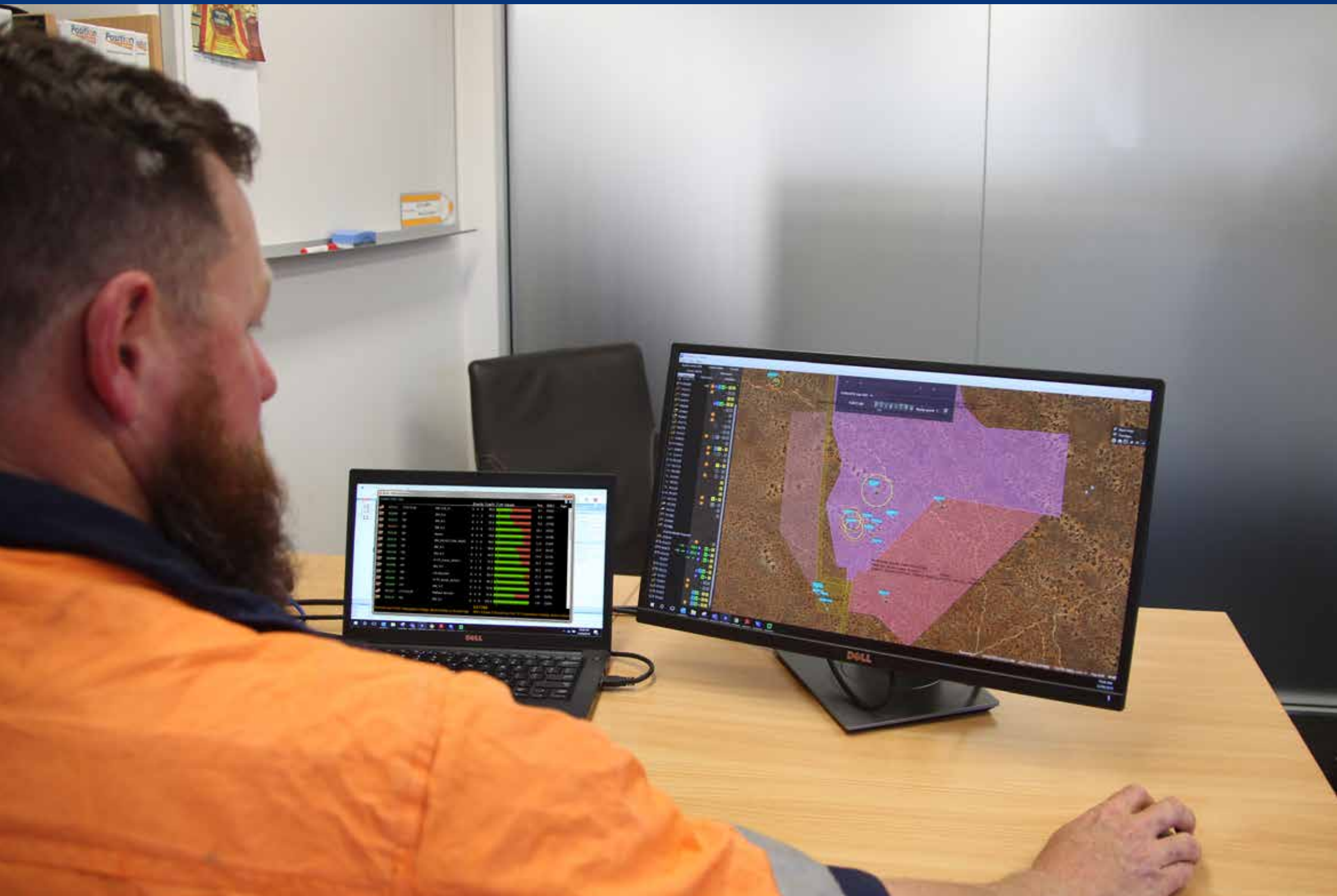
iVolve integrates Fleet Management System and High Precision Machine Guidance to deliver the combined benefits of real-time operational data and advanced machine guidance.



### Unlock the Insights

- Application access
- Vehicle location
- Manual / automatic SMU
- Speed alerts (GPS)
- Activities / delays
- Messaging
- Operator login
- Maintenance events/alarms
- Fuel levels
- Load & dump location
- Load pass & overload notification
- Material type & warnings
- Destination
- In-cab production stats
- Smart production states
- Automatic utilisation
- Centre of gravity





Item	Value 1	Value 2	Value 3	Value 4	Value 5
Item 1	100	200	300	400	500
Item 2	150	300	450	600	750
Item 3	200	400	600	800	1000
Item 4	250	500	750	1000	1250
Item 5	300	600	900	1200	1500
Item 6	350	700	1050	1400	1750
Item 7	400	800	1200	1600	2000
Item 8	450	900	1350	1800	2250
Item 9	500	1000	1500	2000	2500
Item 10	550	1100	1650	2200	2750





## Map Based Visualisation

iControl® is the iVolve map based visualisation tool displaying your fleets' real-time data for a complete overview of the state of the fleet and assets.

Details such as the location and operational status of vehicles; the quantity of material a vehicle is carrying; and the amount of fuel a vehicle currently has are all examples of the information that can be clearly visualised in real-time on the map and other iControl® views.

Data and image overlay sources include:

- aerial photography
- vector or CAD drawings
- databases and GPS.

In addition to these real-time aspects, iControl® can also be used to analyse and report on historical fleet movements (including position, speed, heading and operational height) and historical events, as well as providing a configuration interface for the system.

iControl® also acts as a front-end for editing various data in the database, including operator lists, vehicle lists, materials lists and geofences.

Despite much of the functionality being GPS dependent, iControl® is required at site so that operators can select their names that can then be recorded against each assigned plant and shift



### Locate & view detailed live data

Instantly see the location and status of vehicles and operators, with snapshots of production data for each vehicle & circuit.



### Manage shift load cycle data

Dashboards showing real-time progress of the shift and vehicle timeline.



### Manage site configurations

Easily update and edit production data. Manage operator, vehicle and materials lists and geofences.



### Investigation replay

Get a full picture during incident investigation Replay - analyse and report on historical fleet movements.

# High Precision Machine Guidance



## Dozer

Give your operators the power to mine to the design and reduce downtime. With a simple, user friendly interface that can be used across a multiple machine types, Carlson Grade will increase machine productivity and profitability.

- Correct floor elevation
- Up productivity via accurate push strategies
- Reduce idle time
- Easily mine to the design
- Reduce survey cost
- Increase safety with watch and warning zones
- Track materials
- Determine accurate overhaul costs



## Drill

Accurate drilling = Better Blasting  
Better blasting = Better Fragmentation  
Better Fragmentation = Lower Downstream Costs

- Get correct angle and depth of all holes
- Enable correct hole and row distance at bottom of the blast
- Significantly reduce the need to mark collar points and depth
- Retrofit to all makes and models of drill rig
- Reduces blasting and survey costs
- Customise proximity and warning zones to keep machines in safe working boundaries



## Excavator

Carlson Grade for excavators gives operators greater situational awareness through proximity warnings between machines and fixed assets. It also increases safety for surveyors and engineers by reducing survey time in the field.

- Build to design for better highwall and proper bench elevation
- Dig to design utilising surfaces or block models
- Real-time cut/fill/on-grade to multiple design surfaces
- Build simple or complex pads and slopes
- Accurately build to elevation offsets
- Track single or multiple points



## Stockpile

### Safety Benefits:

- Increase operator awareness through proximity warnings between machines and fixed assets - machine to machine peer communication
- Ability to use 2D and 3D watch zones and warning zones by geofencing infrastructure
- Increase safety by reducing survey time in the field for surveyors & engineers
- Historical machine playback for incident analysis

### Productivity Benefits:

- Accurate design info & correct floor elevation;
- Simple screen display for ease of operations
- Tag delays
- On-screen ramp and bench design
- Operator Login available
- Accurately generate productivity reports
- Direct import of DXF/DWG files

### Utilisation Benefits:

- Eliminating delays waiting on survey
- Rapid response to changes through remote or manual upload of designs
- Real-time locating and playback of where and how machines are being used;
- Machine utilisation tracking and task analysis
- Real-time machine system view and troubleshooting capability from anywhere in the world



## Reclamation Design & Management

Position Partners offers a powerful combination of High Precision Machine Guidance and 3D Data Guidance Landform software for your mine site reclamation requirements. It has been developed as a tool that can design landforms using a cost-efficient process that reduces volumes to be moved and increases construction efficiency to achieve a final landform that conforms to site constraints.

The software can optimize material movement and produces both horizontal and vertical directional movement analyses that can be used for tender / liability costing applications and implementation operations. A direct interface with GPS Guidance systems for earthmoving equipment to lower costs and increase production.

- Volume Balance
- Efficient Reshaping
- Efficient Movement of Over-Dumped Material
- 3D Grade and Swell Regions
- Multi-Grade Slopes
- Integrated Drainage (v-drains/chutes)
- Integration with Existing Design (previously



# Carlson Command

## Command & Control from Anywhere

Carlson Command is an office software platform designed for data collection, analysis and reporting. Accessible from anywhere that has an internet connection, Carlson Command is a monitoring and data management software solution that transmits data from machines to the office and from the office to machines.

- Productivity analysis
- Data management of single or multiple sites
- Direct machine-to-machine communication and data sharing with live and historical 3D machine playback
- In-cab monitoring and training from the office
- Full design mapping with real-time cut, fill and elevation information
- Create and customise tasks, delays and down codes



### Top New Features

- Modern, powerful protocols for machine connection and data transfer to enable lightweight user install
- Send projects, installs, files and configurations to a single machine or your whole fleet with confidence
- Advanced data input and real-time transfer means accurate, up-to-date records
- Required task feature ensures operators are logging their time accurately
- Manage, view, and create custom reports of multiple As-Built surfaces within the site linework

### User-Friendly Web Interface

- Quick, Easy Report Customisation
- Cloud Data Management
- Management of Multiple Sites
- Scheduled Reporting with Automatic Emails
- Comfortable, Clear Interface

### Powerful Management & Reporting

- Individual Machine Volume Metrics
- Dozer Push Metrics
- Time Reporting
- Drill Reporting
- Productivity Analysis
- Surface Colour Mapping
- Cut/Fill Colour Mapping
- Rover Position Trace
- Historical Replay

### Dynamic Productivity Tools

- On-the-move data exchange (machine to machine)
- Surface updating
- In-cab monitoring
- Tasks & delays/down-codes
- On-site proximity warnings & avoidance zones



# SafeAI®

## Retrofit Autonomy

For all makes and models of truck

Having successfully completed a proof of concept project in Karlawinda, WA, Position Partners is working with SafeAI to retrofit a mixed fleet of 100 mining trucks for MACA. MACA will be the first contract miner to deploy AI-powered autonomy for its customers, establishing safer, more productive and more cost-effective operations.

- ✓ Agnostic solution for mixed fleets
- ✓ Retrofit to any make or age
- ✓ Next generation Autonomy 2.0
- ✓ Tried and tested locally & overseas



## Backed by Position Partners

As with all our mining solutions, SafeAI autonomy is powered and supported by the Position Partners network of in-field and technical experts.

### Advantages:

- An experienced team that has retrofitted machine technology to all makes, models, sizes and ages of heavy machinery for more than 30 years
- Partnered with SafeAI research and development team to deliver responsive, high performance solutions
- Remote access capabilities for fast support and the ability to tap into the wider Position Partners mining team
- Large team of local, boots on the ground in-field support with hubs in all key mining locations throughout Australia

“This versatile, scalable solution is unmatched in our industry right now, and has profound implications for site safety, efficiency and cost-effectiveness.

We expect to see quick takeup from our customers as they begin to see the tremendous impact of this technology

Shane Clark, GM Estimating & Technical Services  
MACA

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## Rajant Kinetic Mesh Networks

Rajant's Kinetic Mesh® is the only wireless network that autonomously adapts to operational and environmental changes in open-pit and underground mines.

In over 230 mines worldwide, Kinetic Mesh networks dynamically evolve to keep applications, equipment, and mine production running on the surface and underground, with no fibre or mobile phone towers needed.

Rajant Kinetic Mesh® provides a mobile mining network that enables mining operators to meet continuous production and industry safety mandates with unwavering network availability. The unique nature of our Kinetic Mesh architecture allows open-pit and underground mines to easily introduce, relocate, or remove network infrastructure - without causing any network downtime - to deliver highly adaptable coverage and continuous connectivity. It's the only network for mining autonomy that runs without fail.

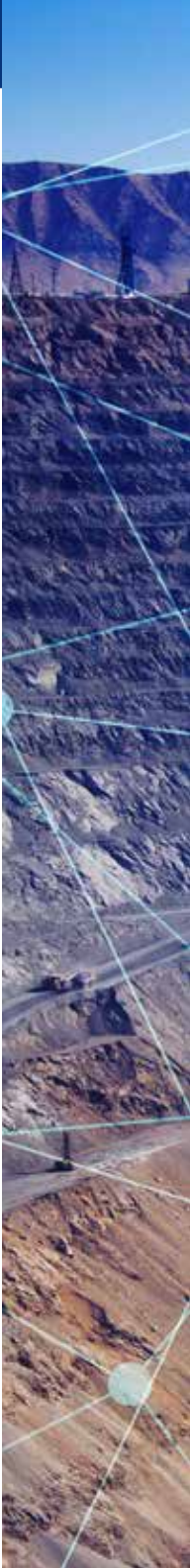
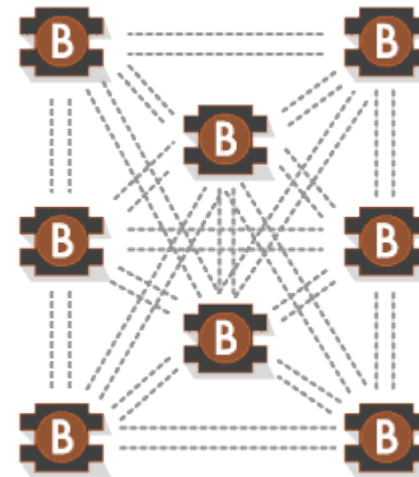
Kinetic Mesh® networks work autonomously to provide optimal connectivity across an organization's dynamic environment of fixed and mobile assets, delivering robust applications in real-time.

- ✓ Total Mobility
- ✓ Proven Resiliency
- ✓ Maximum Bandwidth Utilisation
- ✓ Rapid Scalability
- ✓ Extreme Ruggedness and Security

## Backed by Local Support

Position Partners provides local support and on-site configuration of your Rajant Kinetic Mesh networks. Our experienced team has deployed numerous Rajant networks successfully for our mining customers.

Backed by Madison Technologies, Australia's B2B wireless network specialists, no other company can offer the expertise and responsiveness of our team to support your mesh network needs.







## Wireless Deformation Monitoring

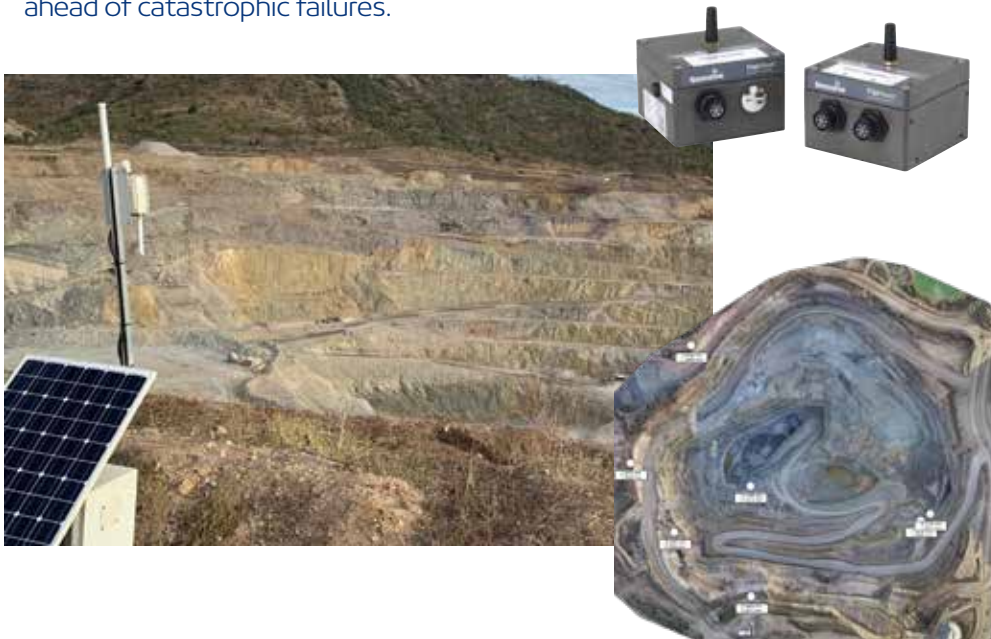
### Accurate, High Resolution, Stable And Repeatable

- Only use high precision, stable sensors
- Easy to use web based visualisation
- Multi-level text and email alerts

### Innovation And Intelligence

- Innovate and collaborate closely with / for clients
- Integrated and triggered imaging and wireless solutions
- Intelligent solutions support decision making

Our systems are remotely configurable and customisable. They facilitate predictive remote asset knowledge and understanding to improve predictability ahead of failure, assets can be repaired, replaced or maintained ahead of catastrophic failures.



## Mine Grade Survey Drones

### Remotely Piloted Aircraft Systems (RPAS)

Position Partners has an expert RPAS team to assist with training and technical support of your survey drone technology. With complete packages that cover hardware, photogrammetry software and visualisation tools, we ensure you have a robust solution backed by superior customer service and dedicated support.

From the Trinity F90+ Vertical Take-Off and Landing (VTOL) aircraft to map large areas with high accuracy, to a range of multi-rotor drones ideal for stockpiles and inspections, Position Partners will work with you to find the best solution for your aerial mapping needs.

As the first company to introduce survey drones for mapping applications in Australia, we offer end-to-end, field tested solutions.





## Our Offices

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*Shaping New Dimensions*